



**SUCCESSION
TRAINING**

BSB51415 Diploma of Project Management



Constraint Management

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ASSESSMENT WORKBOOK COVERSHEET

WORKBOOK:	Workbook 2
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Please read the Candidate Declaration below and if you agree to the terms of the declaration sign and date in the space provided.

By submitting this work, I declare that:

- I have been advised of the assessment requirements, have been made aware of my rights and responsibilities as an assessment candidate, and choose to be assessed at this time.
- I am aware that there is a limit to the number of submissions that I can make for each assessment and I am submitting all documents required to complete this Assessment Workbook.
- I have organised and named the files I am submitting according to the instructions provided and I am aware that my assessor will not assess work that cannot be clearly identified and may request the work be resubmitted according to the correct process.
- This work is my own and contains no material written by another person except where due reference is made. I am aware that a false declaration may lead to the withdrawal of a qualification or statement of attainment.
- I am aware that there is a policy of checking the validity of qualifications that I submit as evidence as well as the qualifications/evidence of parties who verify my performance or observable skills. I give my consent to contact these parties for verification purposes.

Name : Daniel Harrison

Signature:



Date:

18/04/2020

WRITTEN QUESTIONS

Part 1 – Project Scope

1. Which of the following are project initiation documentation required at the start of the project?

Select all that apply.

☐	a. Communications log
☒	b. Project plan
☐	c. Work Breakdown Structure (WBS)
☐	d. Gantt Chart
☒	e. Project charter
☒	f. Risk management

2. Which of the following are components of a project scope-management plan?

Select all that apply.

☒	a. Project deliverables
☐	b. Project staff assignments
☐	c. Change request
☒	d. Project justification
☒	e. Product description
☐	f. Performance reports
☒	g. Project objectives
☐	h. Project funding requirements
☐	i. Quality metrics
☐	j. Budget forecasts

3. In your own words, discuss how project time and cost affect the project scope. Do not exceed 100 words.

Project time, cost and scope are parts of the project management triangle meaning a change to one of these constraints will directly affect the other two.

If project time is reduced, the scope will most likely need to be reduced as well. If project cost is reduced then the desired scope may not be achievable.

4. Which of the following are events or problem areas relating to project scope that could trigger the need for a formal change request?

Select all that apply.

☒	a. The deliverables may not meet quality requirements.
☐	b. Grammatical and typo errors are found in the project initiation documents.
☒	c. The deliverables may not be what the client wanted, even though they were covered in the project plan.
☐	d. The stakeholder considers the change request and advises the project manager.
☐	e. Observance of non-working holidays affecting project time.
☒	f. Additional quality requirements (such as new legislation or changes in standards) will render the deliverables non-compliant.
☒	g. Failure of equipment needed to produce the deliverables.
☐	h. Missing documentations in the project's information system.
☒	i. Raw materials are no longer available.
☒	j. Supplier or contractor closing business.

5. Which of the following are procedures that typically must be followed under change control processes?

Select all that apply.

☐	a. Project manager seeks advice from supervisor regarding changes in cost.
☐	b. Project manager assigns a project team member to recalculate for the critical path.
☒	c. Project manager provides the change request to the appropriate stakeholder for approval.
☒	d. The stakeholder considers the change request and advises the project manager.
☒	e. The project manager updates the project plan and other documentation where required.
☒	f. Project manager drafts the change request.
☐	g. Project manager delegates the authority to the project team members in advising other stakeholders of the changes.
☒	h. The project manager advises relevant stakeholders (sponsor, team members, etc.) of the changes.
☒	i. Details of the proposed change to be communicated to the project manager.
☐	j. The project sponsor and owner may automatically terminate the project contract.

6. The following are methods of measuring work outcomes and progress against plans. Match each method to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Method	Description
c	Units completed	a. Also known as the 'steps' method, this is used for projects that involve subtasks that need to be completed in an orderly fashion.
a	Incremental milestones	b. In this method, tasks that are being calculated tend to occur over a longer duration time and include multiple subtasks, where subtasks can have different units of measurements.
d	Start / finish	c. This method is used when project tasks are done repeatedly. Assuming that each task is completed at the same amount of time, resources and effort, each task is counted and totaled.
b	Weighted or equivalent units	d. This method is used to determine the percentage of the work completed and the percentage of the work that is still yet to be completed.

7. Which of the following are activities involved in decomposition of the total work project?

Select all that apply.

☐	a. Summarise project tasks in the form of a written report.
☒	b. Identify and analyse the deliverables and related work.
☒	c. Structure and organise the work breakdown structure (WBS).
☐	d. Arrange the smallest project tasks to form an aggregate representation of the total project task
☒	e. Decompose the upper work breakdown structure (WBS) levels into lower level detailed components.
☐	f. Calculate duration and resource effort for each project task.
☒	g. Develop and assign identification codes to the WBS components.
☐	h. Inspect whether work and deliverables meet requirements and product acceptance criteria.
☐	i. List resources required for each project task.
☒	j. Verify that the degree of decomposition of the work is necessary and sufficient.

8. List three (3) ways in which the Work Breakdown Structure (WBS) can be created.

- a. Using phases of the project lifecycle as the first level of decomposition with the product and project deliverables inserted at the second level.
- b. Using major deliverables as the first level of decomposition.
- c. Using subprojects which may be developed by organisations outside the project team such as the contracted work.

9. The following are some problem areas in scope management. In your own words, briefly discuss each problem area.

Do not exceed 100 words for each discussion.

Problem areas	Discussion
Scope creep	Scope creep causes additional and unnecessary pressure on the project team as they will be working on more activities and deliverables than they initially have programmed. Additional resources, time and budget needs to be allocated for the project to be delivered effectively.
Sponsor / project owner approval	While a change in scope might be best for project it is not necessarily going to suit the sponsor or project owner's budget. If the sponsor or project owner did not foresee the change then they may have issues such as additional pressure on their cash flow given they are often not receiving their income until the project is complete and commissioned.
Project team accountability	A change in scope can mean a change in the team's accountability. For example if the scope is increased in one team members area then they may be placed under additional stress and workload to manage the additional scope. This may have a knock on affect where other activities are affected as they may be subsequently delayed. An overloaded team member can also cause items to be missed and compromise quality or cost efficiency.

10. In your own words, discuss the significance of scope management.

Do not exceed 150 words.

Scope management helps ensure that a project is accurately defined and planned and enables the project manager to suitably allocate the required resources and expenses to complete the project. Scope management allows for the proper planning, resourcing, controlling and completing of the project to meet the requirements of the sponsor / project owner as well as that of the other stakeholders with interests in the project. Without scope management the project is somewhat flying blind with no defined direction and plan. Scope management mitigates delays, costs and a poor quality product that can ruin a project.

11. The *PMBOK Guide* outlines the following processes in project scope management. List one (1) tool or technique used in each process.

Project Scope Management	Tool or technique
Collect requirements	Interviews
Define scope	Expert judgement
Create WBS	Decomposition
Verify scope	Inspection
Control scope	Variance analysis

12. Consider the roles and responsibilities of the project manager in project planning. List five (5) roles of the project manager in project planning and list at least one responsibility for each of these roles.

Roles (list five (5))	Responsibilities (List at least one (1) for each role)
Understanding the project	The project manager must fully understand and know the reason why the project is initiated, what are key stakeholders expectations and deliverables of the project.
Scope management	The project manager must ensure that he or she had taken down all the requirements and turned them into work packages that will soon be deliverables.
Time management	The project manager is responsible for scheduling the project and coming up with the schedule baseline.
Cost management	The project manager is responsible for coming up with the cost baseline.
Quality management	The project manager must define what good quality means in your project from your stakeholders and plan the QA and QC activities to achieve them.

Part 2 – Project Time

- The following are estimation tools and techniques used in determining duration. Match each tool and technique to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Estimation tools and techniques	Description
b	Analogous estimating	a. This technique uses a statistical relationship between historical data and other variables to calculate an estimate for activity duration.
a	Parametric estimating	b. This uses parameters such as duration, budget size, weight, and complexity, from a previous, similar project, as the basis for estimating the same parameter to measure for a future project. This technique relies on the actual duration of previous, similar projects as the basis for estimating the duration of the current project.
e	Three-point estimating	c. This is guided by historical information. It provides duration estimate information or recommended maximum activity durations from prior similar projects. This can also be used to determine whether to combine methods of estimating and how to reconcile differences between them.
c	Expert judgement estimating	d. Contingencies are accounted for into the overall project schedule to account for schedule uncertainties.
d	Reserve analysis	e. This technique uses a mathematical formula to determine a weighted average of estimates. It uses the formula: $Te = \frac{To + 4 \times Tm + Tp}{6}$.

2. The following are estimation tools techniques used in determining activity resource. Match each to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Estimation tools and techniques	Description
d	Expert judgment	a. Several companies or organisations routinely distribute updated production rates and unit costs of resources for an extensive array of labour trades, material, and equipment for different countries and geographical locations within countries.
e	Alternative analysis	b. In this technique, when an activity cannot be estimated with a reasonable degree of confidence, the work within the activity is decomposed into more detail. The resource needs are estimated. These estimates are then aggregated into a total quantity for each of the activity's resources.
a	Published estimating data	c. This tool has the capability to help plan, organise, and manage resource pools and develop resource estimates.
b	Bottom-Up estimating	d. This technique is often required to assess the resource-related inputs to this process. Any group or person specialised with knowledge in resource planning and estimating can provide such expertise.
c	Project management software	e. These include using various levels of resource capability or skills, different, size or type of machines, different tools (hand versus automated), and make-or-buy regarding the resource.

3. In identifying the critical path, the following parameters need to be determined for each task. Discuss each parameter.

Do not exceed fifty (50) words for each discussion.

Parameter	Discussion
ES	Earliest start time – this is the earliest an activity can start after it's predecessors have finished
EF	Earliest finish time – This is the earliest an activity can finish without any lag during the activity.
LF	Latest finish time – This is the latest an activity can finish without delaying the critical path.
LS	Latest start time – This is the latest an activity can start by using up float without affecting the critical path.

4. Which of the following statements accurately explain the process of developing the project schedule, including the schedule baseline?

Select all that apply.

☒	a. Developing the schedule is the process of analysing activity sequences, durations, resource, requirements, and schedule constraints to create the project schedule.
☒	b. The project schedule and schedule baseline are developed or established using the activity lists, activity attributes, project scope statement as the bases.
☒	c. Entering the activities, durations, and resources into the scheduling tool generates the schedule baseline.
☐	d. Tools and techniques used in developing the project schedule and schedule baseline include decomposition of the total project work.
☐	e. Developing the schedule baseline starts and ends in the planning phase of the project.

5. Schedule control is the process of monitoring the status of the project to update project progress and manage changes to the schedule baseline.

Which of the following are processes that are involved in schedule control?

Select all that apply.

☒	a. Determining the current status of the project schedule.
☐	b. Defining activities or specific actions to be performed to produce project deliverables
☒	c. Influencing the factors that create schedule changes
☐	d. Decomposing total project work into its lowest levels.
☒	e. Determining that the project schedule has changed
☐	f. Estimating duration and resource effort for the project.
☒	g. Managing the actual changes as they occur.

6. Consider the methods used in project time management.
 - a. In your own words, discuss the application/use of the Gantt Chart. Do not exceed fifty (50) words.
 - b. List three (3) project data generated from the Gantt Chart.
 - c. List three (2) limitations of the Gantt Chart.

- a. The Gantt chart is a useful tool for planning and scheduling a project. It can provide a quick snapshot of a project showing how long the project takes, determines resources required, plans the order of tasks and manages dependencies between tasks.
- b. Project total duration
Tasks involved in project completion
Resources required
- c. Specialised expensive software is required to view and edit, although it can be viewed id converted to pdf format.
The area of the Gantt chart is very large and often difficult to print with a legible font.

7. Consider the methods used in project time management.
 - a. In your own words, discuss the application/use of the Critical Path Method. Do not exceed fifty (50) words.
 - b. List three (3) project data generated from the Critical Path Method.
 - c. Discuss the limitation of the Critical Path Method. Do not exceed fifty (50) words.

- a. A method of determining which activities within the project are critical in terms of maintaining their scheduled dates to avoid delays to the project. It is a tool that can show a quick snap shot of the project and which activities are time critical and sensitive.
- b. Parameters for each task: earliest start, earliest finish, latest start and latest finish; critical path; and which activities are on the critical path.
- c. In a large project the critical path method can make a project look very complicated and incomprehensible. It does not necessarily consider leveling of resources as it is based on durations and their predecessors rather than available resources.

8. The following are tools and techniques used in project scheduling. Match each tool and technique to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Project scheduling tools and techniques	Description
b	Schedule network analysis	a. This is the process of looking at all of the activities that must be completed, and calculating the 'best line' – or critical path – to take so that you'll complete the project in the minimum amount of time. The method calculates the earliest and latest possible start and finish times for project activities, and it estimates the dependencies among them to create a schedule of critical activities and dates.
a	Critical Path Analysis	b. This is a graphic representation of the project's activities, the time it takes to complete them, and the sequence in which they must be done. Project management software is typically used to create these analyses. Common formats for this include Gantt Charts and PERT Charts
d	Schedule compression	c. They expedite the scheduling process by generating start and finish dates based on the inputs of activities, network diagrams, resources, and activity durations.
c	Automated scheduling tools	d. This tool helps shorten the total duration of a project by decreasing the time allotted for certain activities. It's done so that you can meet time constraints, and still keep the original scope of the project.

9. Which of the following statements accurately explain the work breakdown structure (WBS) including its application in project schedules?

Select all that apply.

☒	a. Work breakdown structure (WBS) is the subdivision of project deliverables and project work into smaller, more manageable components.
☐	b. The work breakdown structure (WBS) identifies project personnel who are responsible for each project task.
☒	c. Work breakdown structure (WBS) helps define activities of the project which provide the basis for estimating, scheduling, executing, and monitoring and controlling the project work.
☐	d. The work breakdown structure (WBS) is used to represent the full project scope of the project.
☒	e. The work breakdown structure provides the relationships among all components of the project and the project deliverables.
☒	f. The work breakdown structure (WBS) is used as the basis for the scope baseline which is used in identifying activities or specific actions to be performed to produce of the project deliverables.
☐	g. Project work at lowest levels are not included in the work breakdown structure (WBS)

Part 3 – Project Cost

1. The following are processes involved in project cost management including budgeting the cost of the project. In your own words, discuss each.

Do not exceed fifty (50) words for each discussion.

Estimating costs	Can be analogous estimating which uses costing values from previous similar projects as the estimating basis; or parametric estimating which uses a statistical relationship between historical data and other variables to determine the cost estimation. This can be used for either the whole project or individual segments and can produce a higher level of accuracy depending on the sophistication of input data.
Determine budget	Three methods to determine – cost aggregation where estimates are combined by work packages from the WBS and combined with higher levels for the whole project; reserve analysis where contingency reserves and management reserves are established; and historical relationships where mathematical models are used to predict costs.
Control cost	Two techniques used – earned value management which is based on performance and integrates project scope, cost and schedules; and variance analysis where cost and performance are compared to baselines to determine variance from estimates.

2. The following are different tools and techniques used in cost management. Match each to its correct description.

Write the letters that correspond in the spaces provided.

	Strategy	Description
b	Analogous estimating	a. This is used to establish both the contingency reserves and the management reserves for the project with regards to cost.
c	Parametric estimating	b. This strategy uses the values of costings from a previous, similar project as the basis for estimating the same parameter or measure for a current project. This is used when the current project is similar to a previous one in terms of defined parameters.
e	Cost aggregation	c. This uses a statistical relationship between historical data and other variables to calculate and estimate for cost. This technique is used to produce higher levels of accuracy depending upon the sophistication and underlying data built into the model. Estimates made through this project can be applied to the whole project or to segments of a project.
a	Reserve analysis	d. These are used to develop mathematical models to predict total project costs.
d	Historical relationships	e. Cost estimates are combined by work packages in accordance with the Work Breakdown Structure. The work package cost estimates are then combined for the higher component levels of the WBS and ultimately for the entire project.
g	Earned value management	f. In this technique cost performance measurements are used to assess the magnitude of variation to the original cost baseline.

f	Variance analysis	g. This is commonly used as a performance measurement. It integrates project scope, cost, and schedule measure to help the project management team assess and measure project performance and progress.
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3. List four (4) processes which are followed in monitoring the project costs against outcomes to ensure that additional expenses are not incurred.

- a. Using an effective tool for managing the project finances
- b. Sending invoices on a regular basis
- c. Paying invoices promptly
- d. Checking incoming invoices against contracts, quotes, agreements etc

4. You are appointed as one of the Project Managers of Bigger than Big Corporation. As one of the Project Managers, it is essential that you have a full understanding of the organisation's policies and procedures relevant managing projects within Bigger than Big.

Review Bigger than Big Corporation's [Project Management Policy and Procedures](#) (username: cstclearner password: CstcPty@123).

- a. In your own words, discuss the organisation's Project Management Policy, including its background, purpose, and its scope.
- b. In your own words, discuss the organisation's Project Management Procedures including their purpose and scope.
- c. In your own words, list and discuss the Project Phases prescribed in the organisation's Project Management Procedures.

Do not exceed 100 words for each discussion.

- a. Their approach reflects the mission and values of the company while using a consistent use of project management procedures and templates. The policy is designed to specify the minimum essential elements of management. The Policy purpose is to establish a company wide approach to the initiation, planning, implementation and closure of projects while using the minimum requirements for governance and management. The policy is designed to improve the management process and provide a set of guidelines that can be adapted to suit the requirements of each project. The scope of the policy is to cover all Bigger Than Big projects.
- b. Their project management procedure is aimed at conveying the management policy and project management lifecycle by defining the processes that are performed throughout the whole project to ensure efficient and effective management of their projects. The procedure scope applies to all Bigger Than Big projects.
- c. 1. Pre-initiate phase where a project foundation is developed and defines what the project will attempt to achieve based on appropriate business justification; 2. Initiate phase where following approval the process of determining how the project will be executed is developed ; 3. Plan phase where further detail on how the project will be delivered is developed including the formation of schedules and budgets; 4. Implement phase where project progress is tracked through the use of a detailed implementation plan; 5. Close phase where the project is handed over to the client or end user including details of maintenance or support and evaluation of the success of the project is determined.

Part 4 – Project Quality

1. In your own words, discuss each of the following key concepts in Quality Management.

Do not exceed 100 words for each discussion.

Key Concepts in Quality Management	Discussion
Customer satisfaction	Determining if the project sponsor or owner is happy with the outputs from the project both along the way and at final handover. Meeting customer expectations is critical to ensure the project needs are met which may ultimately lead to further project works. Project quality may be considered poor if customer satisfaction is not met.
Prevention over inspection	Spending the time and money to avoid failures as the cost of preventing mistakes, failures or re-work is usually much less than the cost of correcting them.
Continuous improvement	The constant monitoring, checking and auditing to ensure that any inefficiencies in time, cost, quality and money can be improved as the activities or tasks are repeated. It acts as a formal lessons learnt and can improve the overall performance of the project.

2. In your own words, discuss the difference between Quality Assurance and Quality Control.

Do not exceed 100 words.

Quality assurance is process oriented where a process is tested in producing a product in that there is demonstration that an entity meets all quality requirements. It can be performed through reviews, training, facilitation and is primarily an audit function. Quality control on the other hand is product orientated where testing and detection of defects is determined through inspections of the end product prior to its release or commissioning.

3. The following are standards that could apply in various projects. In your own words, discuss each standard. Do not exceed fifty (50) words for each discussion.

People standards	Based around qualifications and experience of the people working on the project. May include tickets and licenses and will often require regular professional development or requirement to stay current.
Process standards	Based around standards for the processes required in delivering the project or an aspect of the project involving QA auditing. This may include test runs and trials to ensure its quality.
Product / service standards	Based on the end product standards involving QC including ISO or AS/NZS standards, specifications etc.

4. The following are quality assurance and control methods, techniques and tools. Match each to its correct description.

Write the letters that correspond to your answers in the spaces provided.

	Methods, tools, techniques	Description
h	Benchmarking standards	a. This is a distribution of dots comparing two variables. If the two variables are completely independent you would expect the dots to be evenly distributed randomly across the graph. If there is a strong relationship though, the graph will show a straight line or a mathematical curve going through it.
g	Brainstorming sessions	b. These are graphical representations showing a visual impression of the distribution of data. Usually it shows the frequency up the Y axis of the bar graph and the measuring variable along the X axis.
d	Control charts	c. It is a graph where the X axis is time dependent. This allows you to look for time-based cycles in processes.
f	Flowcharts	d. These are also known as Shewhart charts or process-behaviour charts. These charts are used to statistically measure the quality characteristics of a process are under control. This is based on a statistical analysis where a centre line is drawn for the mean of the output, then an upper control limit and a lower control limit is created either side of the centre line. The process is then measured over a period of time and the results plotted on the graph. Once the graph has been created, it can be analysed to test the stability of the process and also any cycles of errors.
b	Histograms	e. It is very similar to a histogram, but it includes a line over the graph indicating the cumulative distribution of the results.

e	Pareto charts	f. A diagram that represents a process. It shows the steps visually as a series of boxes with arrows in between them showing the work flow. Rectangular boxes represent tasks and diamond shaped boxes represent decision points, where the flow can split into two or more directions.
c	Run charts	g. It occurs when a group meets and is presented with a scenario where they creatively come up with a range of solutions.
a	Scatter grams	h. These may be dictated to by legislation through Federal, State or Local Government regulations, and may be dictated by industry bodies.

5. List five (5) responsibilities of the project manager in quality management.

- a. Determining the quality standards for the project deliverable
- b. Determining the quality standards for the project processes
- c. Documenting all the required standards in the project plan
- d. Ensuring all organizational quality requirements are met for the delivery of the project
- e. Leading, or at least coordinating, project QA and QC activities

6. The following are methods used in managing continuous improvement. In your own words, discuss each method.

Do not exceed fifty (50) words for each discussion.

Six Sigma	It identifies and removes the causes of defects and minimizes variability in manufacturing and business processes.
Lean Six Sigma	Systematically removes waste, combining lean manufacturing and six sigma to eliminate the eight kinds of waste – time, inventory, motion, waiting, overproduction, over-processing, defects and skills. It requires a collaborative team effort.
Total Quality Management	Seeks to improve the quality of a product or service through ongoing refinements in response to continuous feedback. It is a comprehensive and structured approach.

CASE STUDY

Instructions to Student

These case studies are hypothetical situations which will not require you to have access to a workplace, although your past and present workplace experiences may help with the responses you provide. You will be expected to encounter similar situations to these in future as you work in a project team environment.

In the real world you are likely to encounter the situation where you enter a project, taking over from another project manager. The documentation that is handed over to you is not necessarily up to scratch, and there could be serious issues with the project. This assessment captures that real life scenario.

The case studies are the first part of dealing with “multiple complex projects” required in all the units of this subject. The other assessment covering this requirement is the practical assessment. When you have completed the case studies you will be able to commence the practical assessment which covers the generic skills needed to function as an effective project team member. This assessment on the other hand covers the application of the underpinning knowledge and background theory.

Introduction

You have been appointed as a project management consultant to the project team at Awesome Landscapes Pty Ltd. Specifically, you are required to provide independent advice on seeing their current project throughout its entire lifecycle.

You have already provided advice to Awesome Landscapes in the previous workbook.

Today is 24 July 20xx. The project will shortly progress into the implementation stage. You have now been provided with up-to-date project documentation below, including an updated Project Plan. The project steering committee have reviewed the Project Plan, but they wish to have you conduct an independent evaluation of the project prior to signing it off.

As part of your consultancy services, you will be assisting the team in addressing issues around project constraints by answering the questions that follow this scenario.

The documents you need to complete the succeeding tasks can be accessed through the following links:

[Project Charter version 2 \(.pdf\)](#)

[Project Plan version 2 \(.pdf\)](#)

[Project Gantt Chart version 2 \(.mpp\)](#)

[Project Gantt Chart version 2 \(.pdf\)](#)

[Project Network Diagram version 2 \(.pdf\)](#)

(username: cstclearner password: CstcPty@123)

Note: These documents were generated in year 2016. For the purpose of this assessment, refer to ‘2016’ as the current year and ‘2017’ as the succeeding year.

1. List the three (3) project deliverables in Phase 1.

- a. Removal of vegetation in areas being cleared and replanting/maintaining the plants for replanting in stage 3
- b. Access roads through the existing forest for builders to access each building site
- c. Retaining walls to provide stability around the buildings. Includes 3 additional retaining walls as per updated site plan

2. Discuss the project constraints in terms of scope, time, cost, and quality.

Scope	The natural environment must be carefully preserved as per the strict council requirements
Time	Completion of all work within 9 months
Cost	Fixed budget of \$550,000 + GST
Quality	Must be build to council standards/requirements

3. Review the project schedule as set out in the Project Plan and the Gantt Chart
Arrange the following tasks in the proper sequence as dictated in Phase 3 of the critical path.

Write 1 – 12 in the spaces provided; where 1 go first and 12 go last.

8	Remove weeds
11	Plant additional plants
2	Move gravel to car park
1	Expand car park
12	Remove greenhouses
9	Plant plants from greenhouses
3	Seal car park
6	Soil preparation
7	Add boulders
5	Construct stone paving pathway

10	Purchase additional plants
4	Landscape over old access roads

4. Review the Project Plan. The change request has outlined one change in the scope of the project.
 - a. What is the change in scope?
 - b. How does this change in scope impact the overall duration of the project?
 - c. How does this change in scope impact the quality aspect of the project?

- a. Addition of 3 new retaining walls and services to additional units as per updated site plan
- b. Time required to complete retaining walls has increased. Project start date brought back 1 week ultimately adding 1 week to the project duration
- c. No change to quality

5. Why does the change request only list one change in project cost, yet when you look at the financial tables the costs seem to have increased in numerous parts of the project not even related to the item in the change request?

Do not exceed 100 words.

The scope change request is an overall summary of the key aspects involved. It is to be treated as an executive summary and doesn't have to list in detail every single little change. It is more to summarise the final affect of the scope change to the various key aspects of the project.

The change of scope has affected the hours required in management as well as physical work such as vegetation removal, construction of retaining walls, excavation for incoming utilities and septic systems.

Only the overall adjustment to the project cost needs to be reported in the scope change request even if multiple items have been affected financially by the scope change.

6. Who is responsible for working out these impacts of what initially seemed to be such a simple change, and ensuring all affected stakeholders understand the impact of such a change?

The project manager is ultimately responsible for preparing the scope change request and as part of this is required to communicate the details to the relevant stakeholders to ensure they all understand the impact of the change.

7. Access and review the Gantt Chart version 2.
 - a. What important tasks are not included in the project Gantt Chart?
 - b. Discuss why these tasks must be included in the Gantt Chart? Keep your discussion within 100 – 200 words in length.

- a. The project commencement and completion date/milestones
 - b. Having a single task item or milestone for project commencement is critical to tie in the start of the activities. This means that if the start is delayed then it will automatically push all the other activities that have it as a predecessor. Likewise a completion end task/milestone is also required to that all items can be linked and a delay anywhere on the program will push the end date or re-calculate the critical path. Without these tasks/milestones the critical path can easily be mis-calculated or determined especially when there is a delay or scope change.

8. List the three (3) personnel who signed off on the change request.

- a. Susan Wills
 - b. Stephen Lyons
 - c. Kim Nguyen

9. What is the total increase in cost of the project as a result of this change request?

Project cost has increased by \$10,488

10. List five (5) exclusions under Stage 2 – Building Support of the Scope Management Plan.

- a. Monitoring and maintaining partially and fully constructed buildings
- b. Monitoring and maintaining the main road
- c. Creation of additional retaining walls
- d. Onsite security
- e. Any building, decorating or furnishing of the chalets

11. Review the Project Plan. Does it follow the change management procedure? Explain your reasoning.

Do not exceed 50 words.

Generally yes it follows the change management procedure. The yellow highlighting is easy to identify and follow through what has been altered as a result of the change request 1. The correct personnel have been notified of the change as per the project plan.

12. Access and review the Gantt Chart version 2. It shows double bars for each task.
- What do the coloured bars  represent?
 - What do the grey bars  represent?
 - Why do the grey and coloured bars do not match up in the Gantt chart?

- Tasks and progress
- Summary (stage summary)
- The grey summary bars show the duration of a series of activities (stages in this case) and the coloured bars show the tasks within the stage. There may be many tasks within a stage.

13. Assuming the project runs on schedule, list two (2) tasks that should be in progress if Sam was to visit the site on Monday 22 August.

Do not include the task 'Project Management'.

- Move plants to glasshouse and dispose of weeds
- Delivery of granite boulders

14. If Sam was to visit the site on Thursday, 22 September, he will see that two (2) tasks are in progress, namely:
- Construction of retaining walls.
 - Install and compact soil behind walls.

According to the procedure documents, these two activities cannot happen at the same time. The retaining wall has to be built first. Once construction is completed, the soil needs to be added behind. Why are these two tasks in progress on the same day?

The Gantt chart actually shows “Install and compact soil behind walls” as being completed on 15th Sep however as it does not have construction of retaining walls as a predecessor it is possible to show them as concurrent activities. Also as there are multiple retaining walls it should show a partial overlap as the crew could split to have a separate crew backfilling after each retaining wall is built.

15. According to the Gantt Chart, if there is a delay in the completion of Task 57 ‘Construct stone paving walkway’,
- Which tasks, if any, are immediately delayed?
 - Will this delay push out the completion of the project? Why or why not?
 - Discuss how this could affect the resourcing of the project.
 - List one (1) risk that could arise from this issue.

- Task 59 – Erect signs and task 62 Soil preparation
- Yes, as this task is on the critical path.
- A delay in this task will require a longer duration in management. It may also cause a knock on effect where resources are left waiting to commence their portion of works and end up finding work elsewhere when means they may not be available for this project when required.
- In order to keep the resources available stand by costs may need to be paid which will add to the project expense. This has not been allowed for in the budget.

16. What is the total budget for the project expenditure?

Total budget of the project is \$550,000 + GST.

Estimated expenditure is \$462,153 + GST including scope change request 1.

17. Sam is very concerned about the cash flow of the project.
- What is the problem?
 - What would you suggest be done to rectify the cash flow issue?

- The project has a negative cash flow for the first 2 months with a debt of up to \$250k to be carried in this period.
- Request early payment on materials and other expensive items. Front load the general overhead items so they are paid at the start of the contract.

18. Discuss whether Awesome Landscapes should seek increased funding from Massive Eco-development Corporation to absorb some or all of these cost increases.

Your discussion must be 200 – 300 words in length.

Guidance:

The change requests have incurred extra expense, yet the funding to be paid by Massive Eco-development Corporation has not changed.

If you believe Awesome Landscapes should seek increase funding from Massive Eco-development Corporation, provide a strong argument for your case. If not, explain your reasoning.

The total funding for the project is \$550,000 + GST. The estimated expenditure from Awesome Landscapes is \$462,153 + GST including scope change request 1. This still leaves \$87,847 excl GST left in the budget. This equates to 19% of cost expense risk contingency for the client that is available to draw from in the case of additional scope changes or claims as a result of delays, price escalation and other unplanned items.

19% is generally a reasonable amount of risk contingency to have available and unless Awesome Landscapes can foresee costs over-runs or potential variation claims then this amount should be sufficient.

The identified major risks in the project plan are severe weather and supervisor leaving and this has only been attributed with a moderate risk.

The timing of the project is also due for completion in March which is typically a dry time of year. There are still a few months before the tradition wet weather seasons come into play and significantly affect the construction program if the program were to creep.

Therefore, I do not believe that Awesome Landscapes should be request that Massive Eco-Developments Corporation increase their funding as the current available risk contingency funding appears to be sufficient.

19. Complete the following Audit Template with the standards determined in the previous question (Case Study Question 18). This will be given to an internal auditor to audit the financial processes at various points along the project.

Guidance: Complete only the fields highlighted in yellow. Do not complete the 'Assessment' and 'Comment' fields under 'Audit of Management of Project'.

See below. Note this has been based on Case Study Question 21.

Quality Audit Template

Project Name: <i>Cascade Peak Chalets Landscaping Project</i>		
Prepared by: Daniel Harrison		
Date:		
Project Manager: <i>Sam Ng, Awesome Landscapes</i>		
Project Phase:	Overall Project Status:	
Audit Date:	Audit Number:	Audit Leader:
Audit Team:		
Goal(s) of This Specific Audit: To evaluate the financial processes for the project.		
Audit of Management of Project:		
1. Are financial contractual requirements being met?	Assessment:	Comment:
2. Are invoices being paid on time?	Assessment:	Comment:
3. Are invoices being sent out on time?	Assessment:	Comment:
4. Is financial reporting being done on time?	Assessment:	Comment:
5. Has a calendar of when payments are likely to be due been created?	Assessment:	Comment:
6. Is actual cash flow being tracked and compared against projected cashflow?	Assessment:	Comment:
7.	Assessment:	Comment:
8.	Assessment:	Comment:
9.	Assessment:	Comment:

Overall Assessment of Management of Project:			
Recommended Action(s)/Lessons Learned Regarding Management of the Project:			
1.			
2.			
3.			
Additional Audit Comments:			
1.			
2.			
3.			
Have you attached additional material(s)?			☐ ye ☐ n
Name(s) of attachment(s):			
1.			
2.			
Audit Report Submitted To:			Date:

20. Sam has provided you with the following audit from a previous project (landscaping the new Cascade Peak Shopping Centre). Evaluate the audit report below and answer the following questions:
- What was the cause of the unsatisfactory results?
 - What action would you recommend to prevent the issue coming up again in this project?

- a. Tasks being communicated to the supervisor do not have the level of detail required by the site supervisor. In particular detailed plans are not provided with the task briefs. Some delays in commencing tasks have been experienced as the site supervisor has awaited clarification from the project manager.
- b. The supervisor should be given examples to show what level of detail is required. The project manager should prepare task briefs in enough time to add the required level of detail. Task briefs are to be supplied with all relevant attachments such as detailed plans.

Quality Audit Template		
Project Name: <i>Cascade Peak Chalets Landscaping Project</i>		
Prepared by: <i>Sam Ng</i>		
Date: <i>17 August 2015</i>		
Project Manager: <i>Sam Ng, Awesome Landscapes</i>		
Project Phase: Implementation	Overall Project Status: <i>On schedule</i>	
Audit Date: <i>17 August 2011</i>	Audit Number: <i>26</i>	Audit Leader: <i>Sam Ng</i>
Audit Team: <i>Sam Ng, John Cowley, Ann Deak.</i>		
Goal(s) of This Specific Audit: <i>To evaluate the communication and reporting processes.</i>		
Audit of Management of Project:		
1. Are tasks being communicated to site supervisor in a reasonable amount of time?	Assessment: Satisfactory.	Comment:

2. Are tasks being communicated to site supervisor of sufficient detail?	Assessment: Not satisfactory.	Comment: Tasks only being communicated as per Gantt chart. Site supervisor having to seek clarification regularly on requirements of tasks.
3. Are tasks being communicated by the site supervisor to the team members and contractors done in a reasonable amount of time?	Assessment: Not satisfactory.	Comment: Timing of communication can be improved if there wasn't the need for clarification of the details of the tasks.
4. Are tasks being communicated by the site supervisor to the team members and contractors of sufficient detail?	Assessment: Satisfactory.	Comment:
Overall Assessment of Management of Project: Tasks being communicated to the supervisor do not have the level of detail required by the site supervisor. In particular detailed plans are not provided with the task briefs. Some delays in commencing tasks have been experienced as the site supervisor has awaited clarification from the project manager.		
Recommended Action(s)/Lessons Learned Regarding Management of the Project: 1. Project manager to prepare task briefs in enough time to add the required level of detail. 2. Task briefs are to be supplied with all relevant attachments such as detailed plans.		
Additional Audit Comments: 1. 2. 3.		
Have you attached additional material(s)?		
	ye	x n

Audit Report Submitted To: Kim Nguyen	Date: 24/08/2015
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21. The quality plan is very weak on cost management. Write a Cost Management Plan (of 200 – 300 words) for managing the quality of the financial processes while the project is in progress.

Guidance: Your Cost Management Plan must cover the following quality objectives and criteria.

- a. Meeting with contractual requirements.
 - b. Paying invoices on time.
 - c. Ensure invoices are sent out in time.
 - d. Ensuring financial reporting is done on time.
 - e. Include a calendar of when payments are likely to be due.
 - f. Comparison of actual cash flow against projected cash flow.
-

Cost Management Plan

1. Intro

Increased tourism in the Cascade Peak region has resulted in the need for a resort to be constructed on the mountain. Although the mountain is very popular with climbers during summer and popular with skiers during winter, the nearest accommodation is over two hours' drive away.

The project will work hand in hand with a construction project to create the landscaping and excavation services for an ecologically friendly resort on the lower slopes of Cascade Peak.

2. Aim

This document has been created to assist in the management of quality of the financial processes while the project is in progress.

3. Objectives & Criteria

3.1 Meeting with Contractual Requirements

All financial milestones shall be followed throughout the duration of the contract. A register shall be maintained to outline any key contractual financial requirements.

3.2 Paying Invoices on Time

All invoices are to be paid within 28 days. A register of invoices received with received dates and payment due dates shall be maintained to ensure that invoices are all paid on time. Invoices shall be reconciled and approved for payment within 1 week of receipt and progressed for payment.

3.3 Ensuring Invoices are Sent out in Time

Invoices shall be raised on the first working day of the month following the due date of each progress payment.

Progress payment are due for the following being achieved:

- Payment 1: 50% initial payment at the commencement of phase 1.
- Payment 2: 20% progress payment upon completion of all phase 1 deliverables and delivery of project progress report.
- Payment 3: 20% progress payment upon completion of all phase 2 deliverables and delivery of project progress report.
- Payment 4: 10% final payment upon completion of all phase 3 deliverables and delivery of the project final report.

3.4 Ensuring Financial Reporting is Done on Time

Financial reporting shall be completed within 7 days of the end of each month. The report shall be submitted to the Director of Awesome Landscapes and the Program Manager for Massive Eco-Development Corporation.

3.5 Calendar of When Payments are Likely to be Due

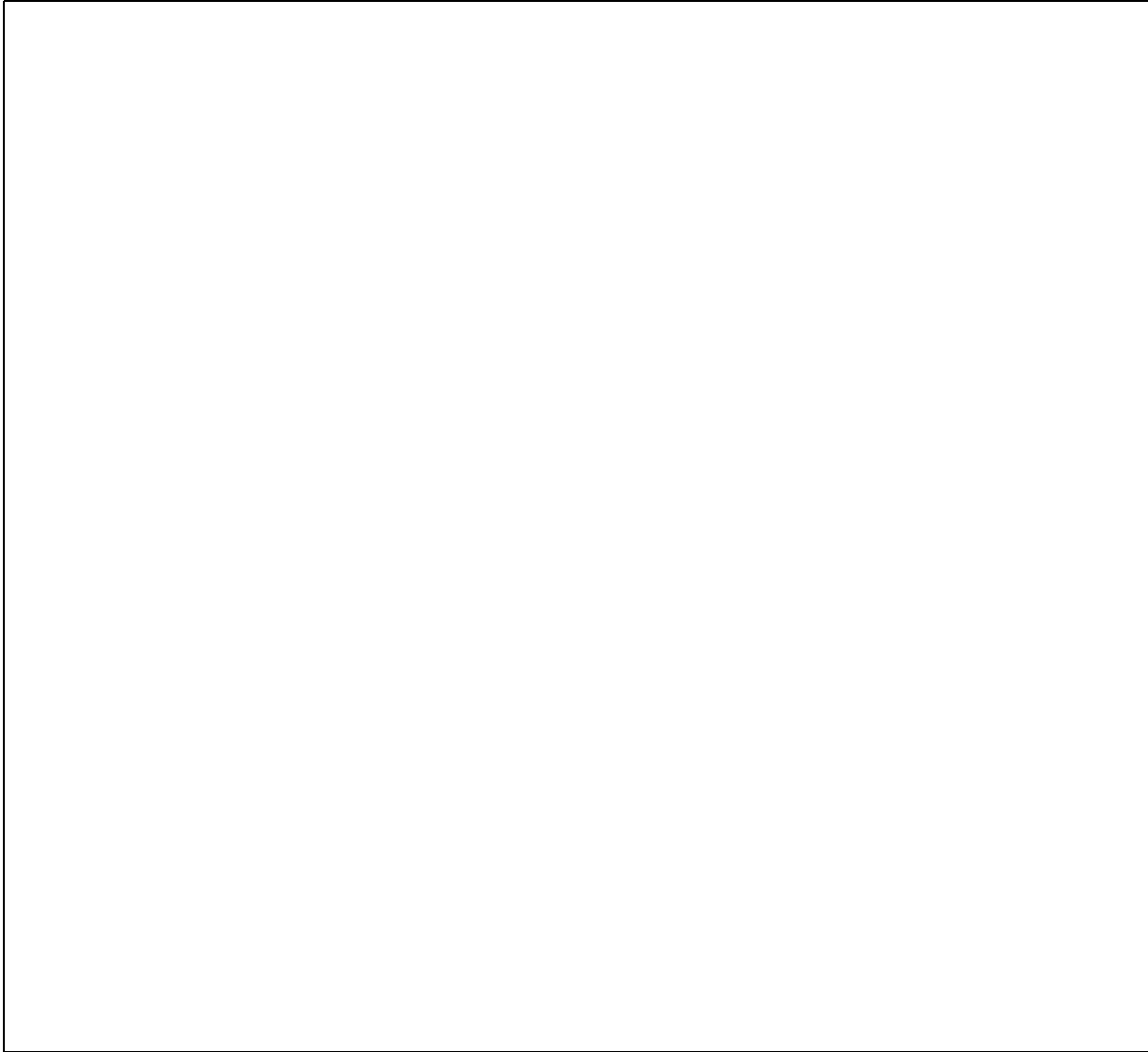
Payments are expected to follow the below table:

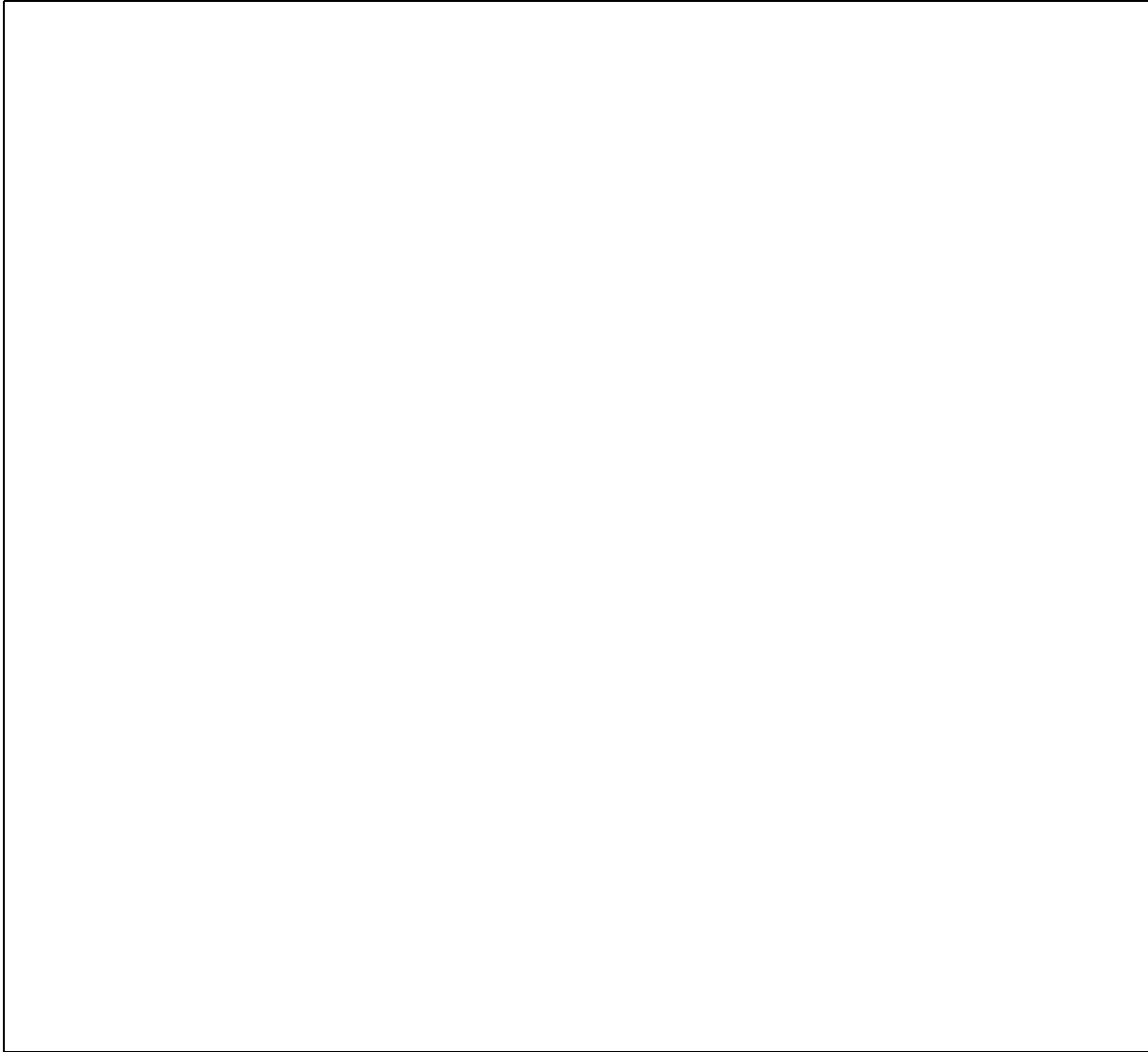
Expected payment date:	Payment	Proportion	Amount (pre-GST)	Amount (GST incl.)
1 October 2016	Payment 1	50%	\$275,000	\$302,500
29 October 2016	Payment 2	20%	\$110,000	\$121,000
1 March 2017	Payment 3	20%	\$110,000	\$121,000
29 April 2017	Payment 4	10%	\$55,000	\$60,500
	TOTAL	100%	\$550,000	\$605,000

This shall be updated and reported in the monthly financial reports.

3.6 Comparison of Actual Cashflow against Projected Cashflow

Actual cashflow shall be recorded and tracked against the projected baseline cashflow. This shall be included in the monthly financial report.





WORKBOOK CHECKLIST

When you have completed this workbook, please ensure you have completed all parts of it:

- ☒ **Written Questions**
 - ☒ **Part 1 – Project Scope**
 - ☒ **Part 2 – Project Time**
 - ☒ **Part 3 – Project Cost**
 - ☒ **Part 4 – Project Quality**
- ☒ **Case Study**

IMPORTANT REMINDER

Students must achieve a satisfactory result to ALL assessment tasks to be awarded COMPETENT for the unit relevant to this subject.

To award the student competent in the units relevant to this subject, the student must successfully complete all the requirements listed above according to the prescribed benchmarks.

End of Document